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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/750,125	12/29/2000	Mitsuhiro Kanada	Q62454	6746

7590 05/02/2006

SUGHRUE, MION, ZINN, MACPEAK & SEAS, PLLC  
2100 Pennsylvania Avenue, N.W.  
Washington, DC 20037-3213

EXAMINER
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CHANG, VICTOR S

ART UNIT	PAPER NUMBER
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1771

DATE MAILED: 05/02/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

6

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	09/750,125	KANADA ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Victor S. Chang	1771	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 05 April 2006.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-10, 16 and 17 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-10, 16 and 17 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Introduction*

1. The Examiner has carefully considered Applicants' amendments and remarks filed on 4/5/2006. Applicants' amendments to claim 1 has been entered.
2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
3. Rejections not maintained are withdrawn. In particular, Applicants' amendment overcome the prior art Nakae, because it lacks a teaching of the specific flame retardants recited in newly amended claim 1. However, an additional search is required, and it yielded a new reference. The new reference is found to render obvious the instant claimed invention. Applicant's comments regarding the prior art Nakae are moot in view of the new grounds of rejection.

### *Rejections Based on Prior Art*

4. Claims 1, 3-10 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over WO 99/47573 in view of JP 08-325408 (machine translation).

WO '573 is directed at a low-density microcellular thermoplastic elastomeric foams with closed cells. The foam is made using supercritical fluid CO<sub>2</sub> as the blowing agent (Abstract). The polymer and the blowing agent are mixed in the melt stage in a tandem extruder under high temperature and pressure, subsequently the temperature and pressure are reduced to initiate foaming (page 3, lines 9-17). Depends on pressure

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drop rates between 0.1 to 15 GPa, thermoplastic foams having various densities between 6 to 14 pcf, and uniform cell sizes of about 100 to 150 microns are obtained (page 4, lines 8-30). Various foam properties such as the density, cell structure and size, compression set, etc. may be adjusted by varying the foaming conditions (page 5, lines 23-26). The optimal compression set is less than about 30% (page 5, line 30). Table 1 shows suitable foam materials include SANTOPRENE<sup>®</sup>, SEBS resin, polyethylene, etc. Further, WO '573 expressly teaches that SANTOPRENE<sup>®</sup> is a blend of polypropylene and ethylene propylene (EPDM) copolymer (page 3, lines 2-5).

For claims 1, 3-10 and 17, WO '573 lacks a teaching of incorporating flame retardants  $\text{MgO} \cdot \text{ZnO} \cdot \text{H}_2\text{O}$  or  $\text{MgO} \cdot \text{ZiO} \cdot \text{H}_2\text{O}$  in the thermoplastic foam. However, it is noted that the invention of JP '408 relates a flame-retardant thermoplastic resin composition comprising inorganic oxide. Examples of the inorganic oxides used include magnesium oxide, nickel oxide, aluminum oxide, zinc oxide, etc. These oxides may be used alone or in the form of a mixture of at least two oxides. As such, in the absence of unexpected results, it would have been obvious to one of ordinary skill in the art to modify the thermoplastic foam of WO '573 with hydrated metal compounds of  $\text{MgO} \cdot \text{ZnO} \cdot \text{H}_2\text{O}$  or  $\text{MgO} \cdot \text{ZiO} \cdot \text{H}_2\text{O}$ , as taught by Nakae, motivated by the desire to improve the flame retardancy of the thermoplastic.

5. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over WO 99/47573 in view of JP 08-325408 (machine translation), and further in view of Applicants' admitted prior art JP-A-322168.

The teachings of WO '573 and JP '408 are again relied upon as set forth above.

The Examiner repeats (see Office action dated 6/21/2002, page 3) that Applicants seems to admit that it is known art to impregnate a pre-formed unexpanded thermoplastic molding, as taught by the prior art JP-A-322168 (Specification, page 4, paragraph 2). Further, since Applicant fails to specifically point out any supposed error in Examiner's position in the response, the aforementioned statement is taken to be admitted prior art.

6. Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over WO 99/47573 either individually, or in view of admitted prior art, and further in view of JP 08-325408 (machine translation).

The teachings of WO '573 are again relied upon as set forth above.

The Examiner repeats (see Office action dated 10/17/2002, page 4) that although WO '573 lacks a teaching of using the foam as acoustic material, Applicants appear to have admitted that it is well known that expanded materials are used in various pads for the purposes of soundproofing, cushioning, etc. in electronic appliances (specification, page 2, second paragraph) and method claim 16 essentially employ only conventional method steps.

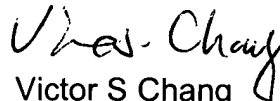
### ***Conclusion***

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Victor S. Chang whose telephone number is 571-272-1474. The examiner can normally be reached on 8:30 - 5:00.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Terrel H. Morris can be reached on 571-272-1478. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Victor S Chang  
Examiner  
Art Unit 1771

4/26/2006